

Remarks

In the Final Office Action mailed May 12, 2009, the Examiner: (i) rejected claims 1-3, 5-8, 10-12, 15-19 and 22 under 35 U.S.C. 103(a) as being unpatentable over Bhogi et al (US 2004/0088413 A1) in view of Yamada et al (US 5,365,582); (ii) rejected claim 13 under 35 U.S.C. 103(a) as being unpatentable over Bhogi in view of Yamada and further in view of Mousseau et al (US 2004/0078495); (iii) rejected claim 14 under 35 U.S.C. 103(a) as being unpatentable over Bhogi in view of Yamada and further in view of Chong et al (US 2004/0064552 A1); and (iv) rejected claims 23-25 under 35 U.S.C. 103(a) as being unpatentable over Bhogi in view of Yamada and further in view of Desai (US 2004/0221031 A1).

In this Response, Applicant has rewritten claim 14 in independent form, and cancelled claims 15-17.

I. Rejection of Claim 14 under Section 103

Applicant notes that Chong application was published on April 1, 2004, thus is only prior art under Section 102(e). Applicant further notes that this application and Chong application are both assigned to International Business Machines. Accordingly, the Chong reference is not available to support an obviousness rejection. *35 U.S.C. 103(c)*.

Applicant has reformatted claim 14 as an independent claim¹ to place it in condition for allowance.

II. Other Rejections under Section 103

The Examiner rejected Claim 1 as obvious in view of U.S. Patent Publication 2004/0088413 to Bhogi et al ("Bhogi") in view of U.S. Patent No. 2004/088413 to Yamada. Applicant respectfully traverses.

¹Part of claim 13 deleted as cumulative.

PATENT -- AMENDMENT AFTER FINAL
Response Under 37 CFR 1.116--Expedited
Procedure - Examining Group 2454

The Examiner bears the initial burden of establishing a prima facie case of obviousness. *MPEP 2141*. Establishing a prima facie case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.* 383 U.S. 1 (1966):

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of nonobviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must then determine whether the claimed invention would have been obvious to one of ordinary skill in the art.

A. The Combination does not each or suggest every claim element

Applicant respectfully submits that the Examiner has not properly characterized the teachings of the references and/or the claims at issue, and thus, has not established the prima facie case of obviousness. More specifically, in addition to those elements identified in Applicant's previous response, neither of the references cited in this case teaches or suggests "in response to the heuristic timer interrupt event . . . adding new connections to the connection pool if the current connection pool size is less than the specified maximum number of connections associated with the current time of day."

1. Claim 1

a. Bhogi

As explained in Applicant's Summary section, the claimed invention is directed at extension to the connection pooling architecture to apply heuristic data to ensure that the connection pool contains the required number of connections for a given time period. This can improve the performance for applications that use connection pooling architectures, such as Java Database Connectivity ("JDBC") and Java 2 Connector ("J2C") connections; by

attempting to predict when increased connections will be necessary, the pool can populate itself with new connections during periods of lower workload instead of consuming system resources after the workload has begun to increase.

Bhogi, in contrast, is directed at a much different problem, namely that when an administrator wants to change the configuration of a connection pool, they must destroy the pool. *Bhogi*, ¶ [0008]. As Bhogi explains:

Changing the configuration of the connection pool (e.g. to change the pool size or other parameters) may require destroying the pool and reinitializing it with new parameters. This procedure may also entail rebooting the computer on which the connection pool resides. Therefore, reconfiguring a connection pool may require the destruction of all connections within the pool at a minimum. For complex systems with a large number of clients, there may be no time at which one or more connections are not in use. Reconfiguring the connection pool may disrupt service to any clients that are currently using connections. This disruption of client services may be of significant duration, particularly if a reboot of the application server is required.

Id. Bhogi then goes on to describe a ‘dynamically configurable’ (i.e., changeable without having to reboot) resource pool. As a result of this focus, however, Bhogi never addresses the key point of the present invention, namely generating and/or applying heuristic override information to ensure that the connection pool contains the required number of connections for a given time period. Put more simply, Bhogi may be a component used by the present invention, but does not teach or suggest the elements identified above.

With this difference in mind, Applicant notes that the Examiner continues to rely on Bhogi, paragraph [0048] and steps 810 and 815 in Figure 8 to show this aspect. *Office Action mailed May 12, 2008 at pg. 4.* Applicant notes that Figure 8 is a continuation of Figure 4 (via the “B” link), which makes clear that steps 810 and 815 occur in response to a resource request. Thus, in context, Bhogi does not add new connections “in response to the heuristic timer interrupt event” as specifically recited in claim 1. Instead, Bhogi appears to be merely teaching the conventional “time-out” approach described in Applicant’s Background Section. As noted in Applicant’s Background section, however, “this technique

does not work well for applications that do not have a static load, because, when the load again increases, the number of connections currently in the pool will not be sufficient. Connections then have to be created as required, and client applications incur this creation cost.”

In the most recent office action, the Examiner also cites to paragraph [0011] of Bhogi,. *Office Action mailed May 12, 2009 at pg. 12*. As a preliminary matter, Applicant notes that this section is part of the Summary, and thus should be interpreted as merely summarizing the teaching explained in more in the previous paragraph. Moreover, Applicant notes that this paragraph explicitly states that the connections are made “upon receiving a request,” and thus not done “in response the heuristic timer interrupt event.” Thus, the new paragraph also fails to teach or suggest “in response to the heuristic timer interrupt event . . . adding new connections to the connection pool if the current connection pool size is less than the specified maximum number of connections associated with the current time of day” as recited in claim 1.

Finally, the Examiner cites to paragraph [0007] of Bhogi. This citation appears to be merely directed at establishing, incorrectly as discussed in more detail below, a motivation to combine the references. Paragraph [0007] is completely silent about heuristic timer interrupt events, adding new connections to the connection pool, connection pool sizes, and the like.

b. Yamada

Yamada also fails to teach or suggest these elements. Instead, Yamada is directed at a telephone switch for a call center. *Yamada, col. 1, lines 1-5*. To avoid unnecessary hold times, Yamada can direct incoming calls to a plurality of different numbers based on each terminal’s free/busy status. *E.g., Id. at col. 2, lines 20-30 and 35-45*.

Although not specifically relying on Yamada for the identified element, the Examiner does extensively reference the “fifth aspect” of this reference. That aspect is an extension to a “fourth aspect,” in which calls are directed to the closest call center, geographically, in

order to reduce telephone charges. *Id. at col. 6, lines 27-39*. The fifth aspect merely adds the additional feature that the system administrator may increase or decrease the volume of calls going to a particular call center by time of day, presumably to match employee staffing. *Id. at col. 6, lines 40-54*. Significantly, however, there is no discussion anywhere in Yamada of actually increasing or decreasing the computing resources anywhere in the system. Instead, Yamada merely discloses a load balancer for incoming telephone calls. It is thus completely silent about “adding new connections to the connection pool if the current connection pool size is less than the specified maximum number of connections associated with the current time of day,” much less doing so “in response to the heuristic timer interrupt event.”

2. Claims 7, 15, and 18

Applicant respectfully submits that these claims contain language similar to that discussed above. Accordingly, Applicant respectfully asserts that the combination of Bhogi and Yamada also fails to obviate these claims.

3. Claims 2-3, 5-6, 8, 10-12, 14, 16-17, and 19

The claims are dependent on claim 1, 7, 15, or 18. Accordingly, Applicant submits they are not obviated by Bhogi in view of Yamada for the reasons previously discussed.

4. Claims 13 and 22-23

In Section III(A), Applicant identified a number of elements not taught or suggested by Bhogi and Yamada. Mousseau also fails to teach or suggest these elements. Instead, Mousseau is directed at a J2EE connector architecture and is silent about the details of connection pool management.

B. There would be no motivation to make the proposed combinations

Applicant respectfully submits that the Examiner has also failed to establish a prima facie case of obviousness because there would be no motivation to make the suggested combinations. The present invention is generally related to methods and systems for increasing and decreasing the computing resources dedicated to a particular task, such as data source connection pools using heuristic information. Applicant respectfully submits that Yamada, Mousseau, and Chong are directed at completely different problems, and thus there would be no motivation to make these combinations -- regardless of the teachings of the primary reference. *MPEP 2141.01(a)*. More specifically, Yamada is nonanalogous art because the time of day settings are directed at reducing telephone charges and matching staffing levels. There is simply no discussion of increasing or decreasing the number of switches, etc used in the system. Similarly, Mousseau and Chong are nonanalogous art because they directed at a J2EE connector architecture and performance management, respectively, and neither discusses the details of connection pool management,

Applicant notes that, in the most recent Office Action, the Examiner did not contest Applicant's assertion in its previous Response that art was nonanalogous. *Office Action mailed May 12, 2009 at pgs. 4 and 14*. For this reason, Applicant requests that the Section 103 rejections be withdrawn.

III. Conclusion

It is believed that the present application is in condition for allowance and a prompt and favorable allowance of all claims is respectfully requested. If the Examiner, upon considering this amendment, thinks that a telephone interview would be helpful in expediting allowance of the present application, he/she is respectfully urged to call the Applicant's attorney at the number listed below.

Respectfully submitted,

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